

REMARKS/ARGUMENTS:

The present invention describes a method of retrofitting existing injection molding machines with a second injector. Such a retrofitting process differs from the original manufacture of injection machines with two injectors because in a retrofit application the injection molding machine has not been designed with a solid and stable mounting location specifically for a second injector.

The present inventors have made a retrofitting market possible by recognizing that the platen surfaces, normally used to support a variety of molds, are sufficiently strong and stable to provide the solid support for a second injector. These platens are normally rectangular with broad faces required for molds.

Generally, the references cited do not teach a method of retrofitting an injection molding machine with a second injector. For example, Yukihiro shows a specialized assembly clearly not part of a standard injection molding machine and apparently completely displacing the first injector that would be on a standard injection molding machine. The Miyahara design is equally implausible as a design for retrofitting of a standard injection molding machine because of the need for a massive non-standard base as shown in Fig. 2.

Probably for this reason, neither Yukihiro nor Miyahara, even taken together, teach the steps recited in the claim 6 of the present invention. Specifically, neither Yukihiro nor Miyahara teach mounting of an injector on a platen as opposed to mounting the injector on tie rods, a base, or other traditional mounting structure. Yukihiro clearly teaches mounting injectors on a bed 1 removed from the platen 6. Likewise Miyahara teaches mounting of both injectors on a base 5 distinct from the platen (not numbered but parallel to plate 6). A person of ordinary skill in the art reviewing these references would conclude that retrofitting of injection machines of many different types and designs was impractical.

In contrast, the present invention reveals that attaching a second injector to one of the movable and stationary platens, a surface found on almost all injection molding machines, can be done with suitable stability. This language of claim 6 has been amended to indicate that the attachment is via a mount directly attached to the platen.

Accordingly, the rejection of claim 6 under Miyahara and Yukihiro is respectfully traversed.

The rejection of claim 8 under Miyahara, Yukihiro and in further view of Taoka is respectfully traversed.

In view of the teachings of the present invention, Fig. 2 of Taoka may appear to show an injector attached to the top of a platen 12, however, the Applicant can find no support in the text of the Taoka application for this assumption. Taoka describes Fig. 1 as an "abbreviated and broken schematic" and the figure is equally consistent with a side mounting of the injector behind or bridging, but not attached to the platen, or a system having other castings or support points simplified from the Taoka figure. Taoka would not teach one of ordinary skill in the art that injectors can be feasibly mounted on a platen surface for retrofitting or any other purpose.

The rejection of claims 11-14 over Yukihiro, Miyahara and Bertschi is respectfully traversed. While the Examiner does not point to particular language of Bertschi that suggests attaching an injector to a movable platen, the Applicant can find only the following language at col. 5, lines 34-37.

"As shown in Fig. 1, device 10 includes an injection assembly 24 positioned in female mold half 14 and stationary platen 18 and an injection assembly 26 position in a mold half." (emphasis added)

Applicant believes that there is no teaching in Bertschi of mounting an injection cylinder on a movable platen in Bertschi. Applicant concurs that Bertschi teaches an injector 38 perpendicular to the opening of the molds but the logical inference from the cited art is simply that it is an injector similar to that shown in Fig. 1 of Taoka clearly not mounted on the platen, for example, 10b.

In light of these amendments and remarks, it is respectfully submitted that claims 6 through 14 are now in condition for allowance and allowance is respectfully requested.

Respectfully submitted,

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